

Amendments to the Claims:

1.- 46. (Cancelled)

47. (New) An isolated nucleic acid molecule comprising a sequence of nucleotides encoding or complementary to a sequence encoding a molecule or derivative or homolog thereof associated with one or more of diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer wherein said nucleic acid molecule is selected from:

(i) a nucleic acid molecule comprises a nucleotide sequence as set forth in SEQ ID NO:7 or a nucleotide sequence having at least about 95% identity thereto or a nucleotide sequence capable of hybridizing to SEQ ID NO:7 or its complementary form under high stringency conditions; and

(ii) a nucleic acid molecule comprises a nucleotide sequence as set forth in SEQ ID NO:8 or a nucleotide sequence having at least about 95% identity thereto or a nucleotide sequence capable of hybridizing to SEQ ID NO:8 or its complementary form under high stringency conditions.

48. (New) The isolated nucleic acid molecule of Claim 47 wherein the nucleic acid molecule comprises the nucleotide sequence set forth in SEQ ID NO:7.

49. (New) The isolated nucleic acid molecule of Claim 47 wherein the nucleic acid molecule comprises the nucleotide sequence set forth in SEQ ID NO:8.

50. (New) An isolated molecule encoded by a nucleic acid molecule comprising a sequence of nucleotides or amino acids encoded by a nucleic acid molecule which is expressed in a larger amount in hypothalamus tissue of obese animals compared to lean animals or in fasted animals compared to fed animals wherein the isolated molecule is encoded by a nucleic acid molecule selected from:

(i) a nucleic acid sequence as set forth in SEQ ID NO:7 or a nucleotide sequence having at least about 95% identity to SEQ ID NO:7 or a nucleotide sequence capable of hybridizing to SEQ ID NO:7 or its complementary form under high stringency conditions; and

(ii) a nucleic acid sequence as set forth in SEQ ID NO:8 or a nucleotide sequence having at least about 95% identity to SEQ ID NO:8 or a nucleotide sequence capable of hybridizing to SEQ ID NO:8 or its complementary form under high stringency conditions.

51. (New) The isolated molecule of Claim 50 wherein the molecule is a protein.

52. (New) The isolated protein of Claim 51 encoded by a nucleotide sequence set forth in SEQ ID NO:7.

53. (New) The isolated protein of Claim 51 encoded by a nucleotide sequence set forth in SEQ ID NO:8.

54. (New) A method for modulating expression of one or more of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 in a mammal in order to treat one or more of diabetes, obesity, a metabolic disorder, a mitochondrial dysfunction, a myopathy, a genetic disorder or cancer, said method comprising contacting said one or more nucleic acid molecules with an effective amount of a modulator of expression of said one or more nucleic acid molecules for a time and under conditions sufficient to up-regulate or down-regulate or otherwise modulate expression of said one or more nucleic acid molecules.

55. (New) A method of modulating activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 in a mammal in order to treat one or more of diabetes, obesity, a metabolic disorder, a mitochondrial dysfunction, a myopathy, a genetic disorder or cancer, said method comprising

administering to said mammal a modulating effective amount of said protein for a time and under conditions sufficient to increase or decrease activity of said protein.

56. (New) A method of treating a mammal suffering from a condition characterized by one or more symptoms of diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer, said method comprising administering to said mammal an effective amount of an agent for a time and under conditions sufficient to modulate the expression of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or sufficient to modulate the activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8.

57. (New) A method of treating a mammal suffering from a disease condition characterized by one or more symptoms of diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer, said method comprising administering to said mammal an effective amount of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8.

58. (New) A method of treating a mammal having a condition characterized by diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer which comprises administering an effective amount of an agent capable of modulating the expression of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or a derivative, homolog or analog thereof for a time and a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 under conditions sufficient to modulate the expression of said nucleic acid or a derivative, homolog or analog thereof.

59. (New) A method of treating a mammal having a condition characterized by diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer which comprises administering an effective amount of an agent capable of modulating the

activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or a derivative, homolog, analog, chemical equivalent or mimetic thereof for time and under conditions sufficient to modulate the activity of said protein or a derivative, homolog, analog, chemical equivalent or mimetic thereof.

60. (New) A method of treating a mammal having a condition characterized by diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer which comprises administering an effective amount of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or derivative, homolog or analog thereof or of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or derivative, homolog, analog, chemical equivalent or mimetic thereof for time and under conditions sufficient to treat said condition.

61. (New) A composition comprising a modulator of expression of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8, and one or more pharmaceutically acceptable carriers and/or diluents for use in treating one or more of diabetes, obesity, a metabolic disorder, mitochondrial dysfunction, myopathy, genetic disorder or cancer.

62. (New) A method for detecting a disease or condition or a propensity for development of a disease or condition in a mammal said method comprising determining the level of expression of one or more of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or the level of activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 and comparing the results to a mammal not suffering the disease or condition.

63. (New) The method of Claim 62, wherein the disease is selected from the group consisting of diabetes, obesity or a metabolic disorder.

64. (New) A method for detecting a disease or condition or a propensity for development of a disease or condition in a mammal said method comprising determining the level of expression of one or more of a nucleic acid molecule comprising the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 or the level of activity of a protein comprising an amino acid sequence encoded by the nucleotide sequence as set forth in SEQ ID NO:7 and/or SEQ ID NO:8 and comparing the results in a mammal which does not have the disease or condition.

65. (New) The method of Claim 64, wherein the disease is selected from the group consisting of diabetes, obesity or a metabolic disorder.